

REMARKS

Claims 1-57 are pending in this application. Claims 5, 9-14, 23-41, 44-52 and 54-57 are withdrawn from consideration pursuant to a restriction requirement. Claims 1, 2, 18 and 21 are amended herein. Support for the amended claims is provided by the specification at, for example, paragraphs [0022], [0023], [0037], [0044] and [0045]. No new matter is added by way of these amendments. Applicants respectfully request entry of the claim amendments and reconsideration in view of the following remarks.

Formal matters

The Office Action on page 2 indicates claims 1-56 are pending. Applicants respectfully point out that claims 1-57 were filed. Claim 57 was assigned to unelected Group VIII in the restriction requirement mailed by the Office on July 26, 2006. Applicants respectfully request the Examiner confirm that claim 57 is withdrawn.

The Office action at paragraph 3 on page 2 indicates claims 11 and 12 are drawn to the elected species, while paragraph 4 on page 2 indicates claims 11 and 12 are withdrawn as drawn to a nonelected invention. Claims 11 and 12 are not drawn to the elected species; thus, applicants respectfully request that the Office confirm that claims 11 and 12 are withdrawn.

The Office Action at paragraph 10 on page 3 and at sub-heading D on page 4 indicates that claim 22 is rejected under 35 U.S.C. 112, second paragraph as allegedly being indefinite for pointing to the examples. Applicants respectfully note that claim 22 does not refer to the examples; applicants believe the Examiner meant to refer to claim 21. Clarification is requested.

Objection to allegedly improper Markush group

Claims 1-4, 6-8, 11, 12, 15-22, 42, 43 and 53 are objected to as allegedly being drawn to an improper Markush group. The Office asserts that the claimed subject matter does not share a substantial structural feature disclosed as being essential to utility. The Office further asserts that the compounds of the claimed Markush group possesses widely different physical and chemical

properties; are not functionally equivalent; and are so functionally diverse they demonstrate dissimilar and unrelated properties. The Office specifically alleges that Markush groups A, R¹, R², R³, X and Y are improper. The Examiner has indicated that the objection would be overcome if the claims were amended to the examined subject matter indication at paragraph 8 on page 3 of the Office Action. Applicants respectfully traverse the objection.

“Applicants have the right to define what they regard as their invention as they choose, so long as the definition is distinct, as required by 35 USC § 112 ¶ 2.” *In re Harnisch*, 631 F.2d 716, 721 (CCPA 1980). “[I]t is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention.” M.P.E.P. § 803.02, citing *In re Harnisch* at 722, and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature essential to that utility. M.P.E.P. § 803.02.

In *In re Harnisch*, the compounds recited in the claim rejected as containing an improper Markush group differed structurally to such an extent that the Board found that it was “repugnant to accepted principles of scientific classification to associate them together” *In re Harnisch* at 718. The Examiner in the present case appears to rely upon similar reasoning, although a detailed analysis is not provided in the Office Action. Applicants note that the Board in *In re Harnisch* was reversed by the CCPA, which held that, notwithstanding the structural diversity present in the claims, the claimed subject matter shared unity of invention. *Id.* at 722. Specifically, the CCPA held that the claimed Markush group was proper, because all of the claimed compounds had utility as dyes, and all were structurally similar coumarin-containing compounds. *Id.*

The compounds of the present invention share at least one common utility that is disclosed in the specification, i.e., exhibiting protective effects against HIV infection of target cells by binding to chemokine receptor CXCR4 or CCR5. *See* specification at, for example, paragraphs [0016] and [0019]. Further, the compounds of the invention have disclosed utility for increasing progenitor cells and/or stem cells, for enhancing production of white blood cells, and for exhibiting antiviral properties. *See* specification at, for example, paragraphs [0017].

Further, the compounds of the present invention share a substantial structural feature, in that all contain an N,N-disubstituted pyridin-2-yl-alkylamine moiety, as shown in formula (1) and throughout the examples. Accordingly, the compounds of the present invention share unity of invention, and the claimed Markush group is proper.

Applicants respectfully request that the objection be withdrawn.

Rejection under 35 U.S.C. § 112, second paragraph

Claims 1, 2 and 22 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. With respect to claim 1, the Examiner has indicated that salts, prodrugs and stereoisomers should be claimed in the alternative, and has indicated that the terms “non-interfering substituent” in claim 1 is unclear. At claim 2, the Examiner has requested clarification of what substituents may be further substituted. At claim 22, the Examiner has asserted that the claim improperly refers to the examples. Applicants respectfully traverse the rejection.

Applicants thank the Examiner for the suggestion regarding amending claim 1 to recite salts, prodrugs and stereoisomeric forms in the alternative. Claim 1 is herein amended consistent with the Examiner’s suggestion. With respect to non-interfering substituents, applicants traverse the rejection and respectfully suggest that the claim language would be clear to one of skill in the art, in view of the disclosure of such non-interfering groups in the specification. Solely to expedite prosecution, claim 1 is amended to list specific non-interfering substituents described in the specification.

Claim 2 is amended to clarify which substituents may be further substituted.

As noted above, claim 22 does not refer to the examples. Applicants believe the Examiner meant to refer to claim 21. Claim 21 is amended herein to list specific compounds of the invention.

In view of the claim amendments, applicants respectfully request that the rejection under 35 U.S.C. § 112, second paragraph be withdrawn.

Rejection under 35 U.S.C. § 102(b)

Claims 1, 2, 4, 7-8, 15-16, 18, 20, 22, 42-43 and 54 are rejection under 35 U.S.C. § 102(b) as allegedly being anticipated by Brinksma, et al. (*Inorg. Chim. Acta* (2002); 337:75-82). In particular, the Examiner points to compounds 1-6, disclosed on page 76, first column as allegedly anticipating the claimed invention. Applicants respectfully traverse the rejection.

To be anticipatory under 35 U.S.C. § 102, a reference must teach each and every element of the claimed invention. *See* MPEP § 2131. Compounds 1-4 described by Brinksma, et al. do not satisfy the claim requirement that at least one of R^1 and R^2 is not H; further, compounds 1-4 do not satisfy the claim requirements for substituent X, wherein X is $(CR^3)_2$ or $(CR^3 = CR^3)_p$ or $(CR^3)_q$ or NR^5 and R^5 is H or alkyl. Compounds 5-6 described by Brinksma, et al. do not satisfy the claim requirement that the Y group is an optionally substituted nitrogen-containing monocyclic or bicyclic aromatic or partially aromatic moiety. Accordingly, compounds 1-6 described by Brinksma, et al. do not anticipate the claimed invention.

Applicants respectfully request that the rejection of the claims under 35 U.S.C. § 102(b) be withdrawn.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **391442006300**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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